IBM NALAIYA THIRAN

CLOUD APPLICATION DEVELOPMENT

PLASMA DONOR APPLICATION

TEAM ID :PNT2022TMID30216

Submitted By

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INTRODUCTION

CHAPTER-1

INTRODUCTION

1.1 PROJECT OVERVIEW

In a plasma-only donation, the liquid portion of the donor's blood is separated from the cells. Blood is drawn from one arm and sent through a high-tech machine that collects the plasma. The donor's red blood cells and platelets are then returned to the donor along with some saline. The process is safe and only takes a few minutes longer than donating whole blood. Donated plasma is frozen within 24 hours of being thawed for transfusion to a patient when needed. Red Cross donations are often used directly for hospital patient transfusions, rather than pharmaceutical uses.

In this project we created a easy way to find people who are in need of plasma or donating plasma by this application with tracking nearby A customizable Donation Web Based Application that allows users to register either as a donor or a patient in need of plasma. Donors will get a date and time slot assigned for donation in nearby centre. This app will also provide a way to store donation and patient history along with suggestions and ways of healthy lifestyle by certified medical practitioners. In day to day life, Plasma donation plays an important role in human life. In this paper we create plasma donor application that gives user friendly experience for both donor and requester and they get profited. This app is made with python flask. The Donor and the requester get registered to the technology that makes creating web applications in python. These data are stored in IBM DB2 which is a family of data management products, including database servers, developed by IBM. When donor post a request for donating plasma it displays a information of blood donation centers and availability of the respective blood groups nearby his/her location. This type of same functionality can be use by requester also. This process done by kubernates

which is an open-source system for automating deployment, scaling, and management of containerized applications and fetching the details by IBM cloud that can establish your own private cloud like computing environment on shared public cloud infrastructure. Appointments will be fixed and get notified by mail using Sendgrid Technology which is cloud based SMPT provider that allows you to send email without maintaining email servers.

1.2 PURPOSE

The Main purpose of this Application is to help the people who are in need ofplasma can easily find the location of the centre and also the requester can easily find the donor according to their blood groups.

Providing health care via electronic means (e-health) is a new Perspectives regards global health, which aims to improve health care service delivery topeople. Plasma donation is seen as a noble act as it helps save precious humanlives. During the COVID 19 crisis, the requirement of plasma became high and the donor count being low. Saving the donor information and helping the need by notifying the current donors would be a helping hand. It is very difficult find the respective blood group donors when anyone is in need.

In regard to the problem faced, an application is to be built which would take the donor details store it and inform them upon a request. We can save life who are in need of plasma.

LITERATURE SURVEY

CHAPTER-2

LITERATURE SURVEY

2.1 EXISTING PROBLEM

Available solutions provide a platform to both donors and patients to keep a track of the availability and feasibility of the donation procedure. Some existing solutions also give suggestions regarding health, but these suggestions may not be advisable by a certified medical practitioner. A customizable Donation Web Based App that allows users to register either as a donor or a patient in need of plasma. Donors will get a date and time slot assigned for donation in a nearby centre. The app will also provide a way to store donation and patient history along with suggestions and ways of healthy lifestyle by certified medical practitioners.

2.2 REFERENCES

Paper 1: Evaluation of the Wateen App in the Blood-Donation Process in Saudi Arabia (Tourkiah Alessa, April 2022)

The aim of this research was to evaluate the usability, user satisfaction and perceived usefulness of this blood-donation app in Saudi Arabia. A mixed-method study was conducted comprising a quantitative questionnaire with donor and qualitative semi-structured interviews with healthcare professionals. Descriptive analysis was used for the quantitative data and a thematic approach for the qualitative data. Quantitative data analysis was conducted using SPSS software package 19 to calculate descriptive statistics. This blood-donation app is highly usable and acceptable among donors and healthcare professionals in Saudi Arabia, offering several benefits. Some accessibility issues were identified, along with possibilities for improving accessibility and expanding the app's functionality.

Paper 2: A Cross-Platform Blood Donation Application with a Real-Time,

Intelligent, and Rational Recommendation System (Rashik Rahman, September 2021)

In this research work, they have designed a real-time, intelligent, and rational recommendation system using sentiment analysis of the user's feedback, response rate of the donor, and the current geo-location information and finally develop a cross-platform application for blood collection and distribution system. To process and generate features from the user feedback, they have designed a Bi-directional LSTM-based deep learning model. They chose the flutter framework to develop our cross platform applications. Firebase, a Google platform for mobile and web applications, has been used in the proposed application for authentication man. The quality of the recommendation of the potential donors has significantly improved. Moreover, they have conducted rigorous requirement analysis from real users and evaluated the performance of the application through both indoor and outdoor testing.

Paper 3: Location-based Mobile Application for Blood Donor Search

(Fernando Alex Sierra-Linan, January 2022)

The research proposes the development of a location-based mobile application for blood donor search (DONAPE), for which the mobile application provides a direct location-based channel between blood seekers and blood donation centers. Achieving to increase the number of donors, improve the place of origin (geographical location) of donors and improve the search time. They chose to use the agile Scrum method to develop the project prototype. This method has 5 phases: initiation, planning and estimation, implementation, review and retrospective and launch, for the development of this project. In web and mobile applications were developed to manage blood donation, allowing to register, schedule, receive notifications and access information, synchronizing blood donation centers with emergency centers, to verify the availability of blood needed and to send a request to the nearest blood donation center.

Paper 4: Blood donor app usage behavior and perceptions: Considerations for a blood donation app (Andrea Potgieter, May 2022)

This article aimed to determine whether South African blood donor app usage behavior and perceptions were conducive to introduce a blood donation app, and what these behaviors and perceptions could reveal, to support south African Blood Donation Organizations in their recruitment and engagement endeavors. The research problem discussed in this article sought to highlight the app usage behavior of blood donors, and their perceptions about a proposed blood donation app. forming part of a larger sequential mixed-methods study, the data presented in this article were gathered through a quantitative online questionnaire involving 2154 South Africans respondents. The value of this research lies in the insight gained into the behavior and perceptions of South African **blood donation app (Andrea Potgieter, May 2022)** blood donors, which can inform the conceptualization and design of a blood donation app, there by improving its efficacy and subsequently supporting the strategy of employing such a technology to increase blood donation.

Paper 5:Preferences and features of a blood donation smart phone app: A multicenter mixed-methods study in Riyadh, Saudi Arabia (Afaf Ali Batis, March 2021)

To identify the features and preferences of a blood donation smart phone app for blood donation centers and donors in Riyadh City, Saudi Arabia. This is a mixed-method study composed of a quantitative cross-sectional part (with donors, using a self-administered questionnaire), and a qualitative/quantitative part (with blood donation center staff, using semi-structured interviews). Data were collected between 15 November 2017 and 5 February 2018, from four blood donation centers in Riyadh City, Saudi Arabia. A descriptive analysis was used for the quantitative part and a thematic approach for the qualitative part.

2.3 PROBLEM STATEMENT DEFINITION:

Customer Problem Statement:

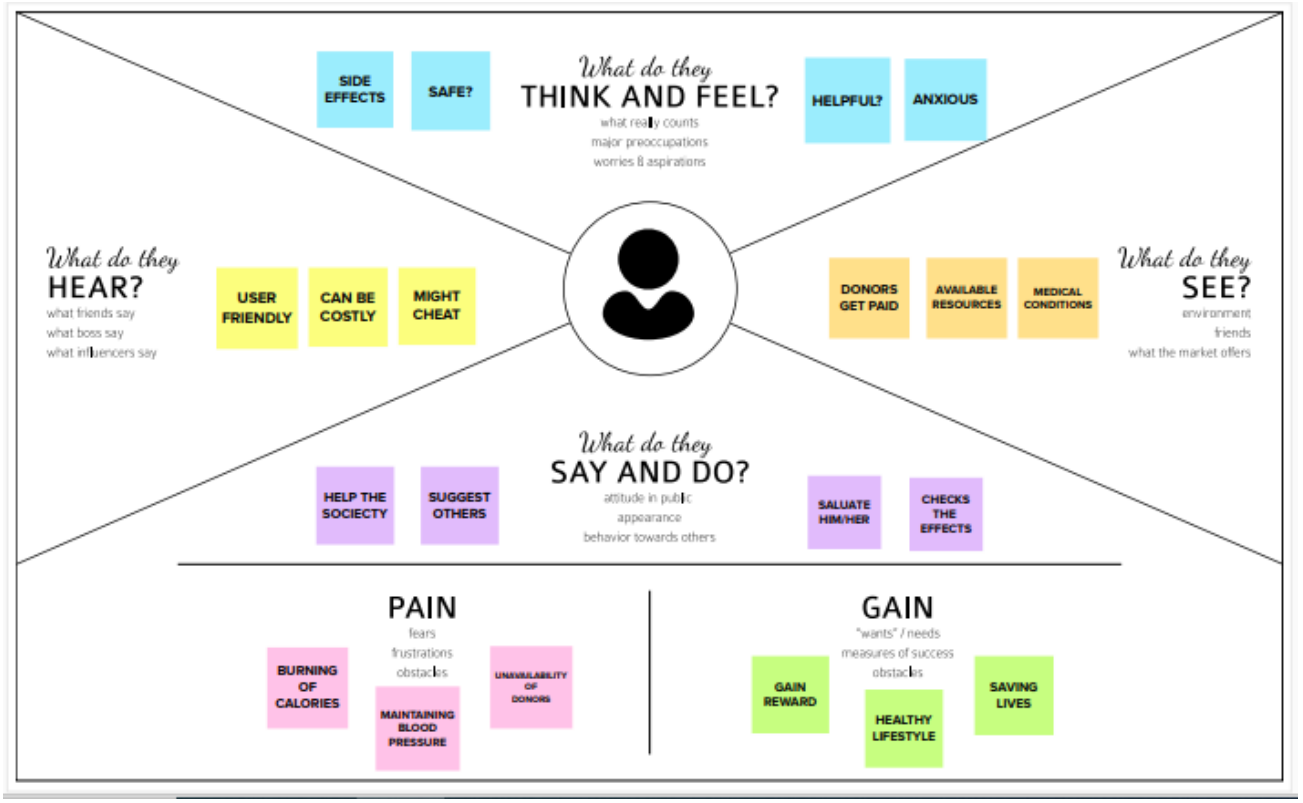
Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	Donor	To Search for Donation Centre nearby my location	Not able to search	Lack of Technology	Worried
PS-2	Blood seeker	To search for plasma	Unavailable Resources	Registration is not done	Frustrated
PS-3	Health care professionals	To check for Volunteers For Plasma Donation	No clear information	Unpopularity Of Blood Centre	Tensed
PS-4	Third person (Society)	create awareness of Donation	Not Effective	Limited Support In Public	Dissatisfied

IDEATION & PROPOSED SOLUTION

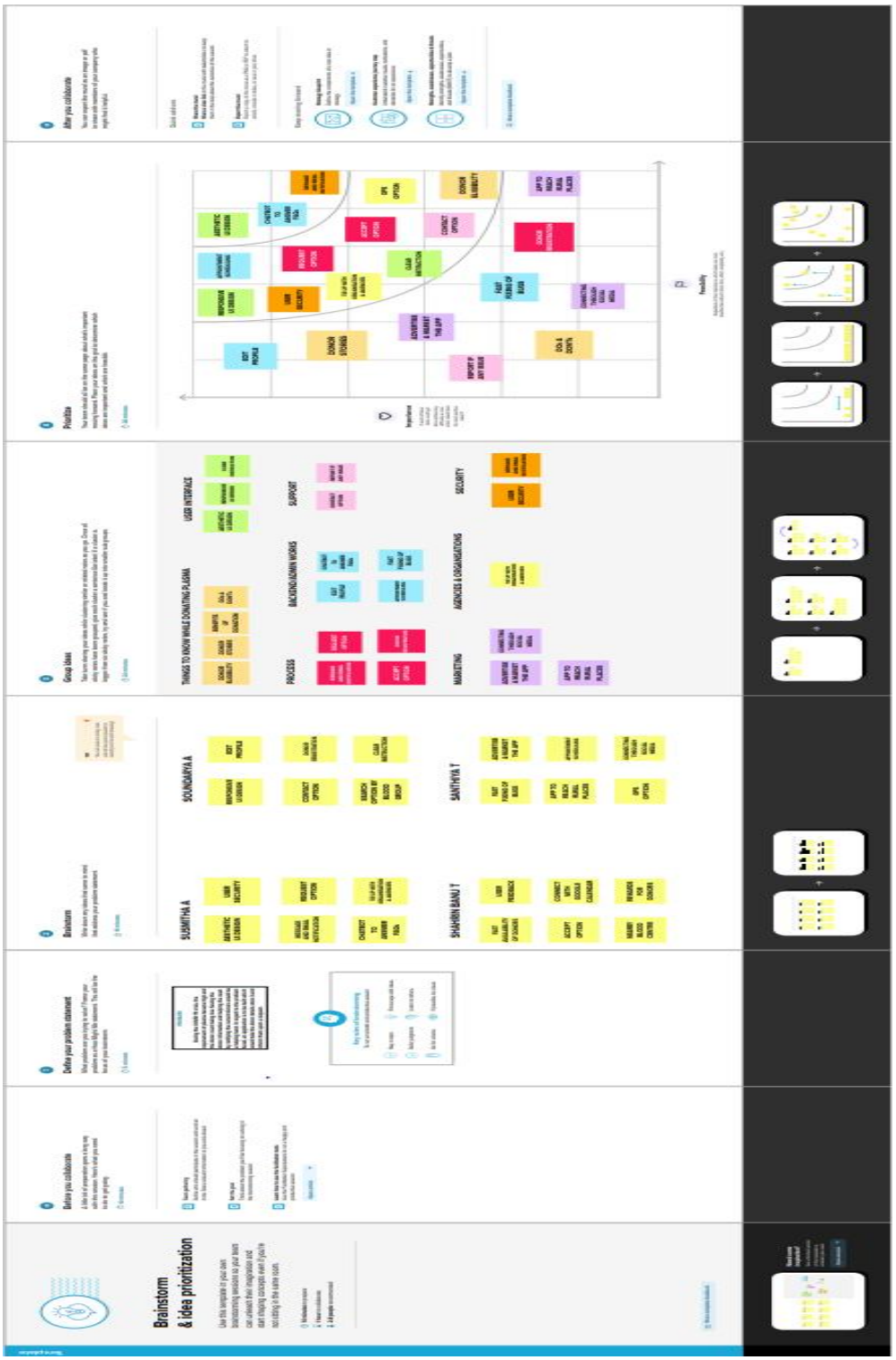
CHAPTER-3

IDEATION & PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS:



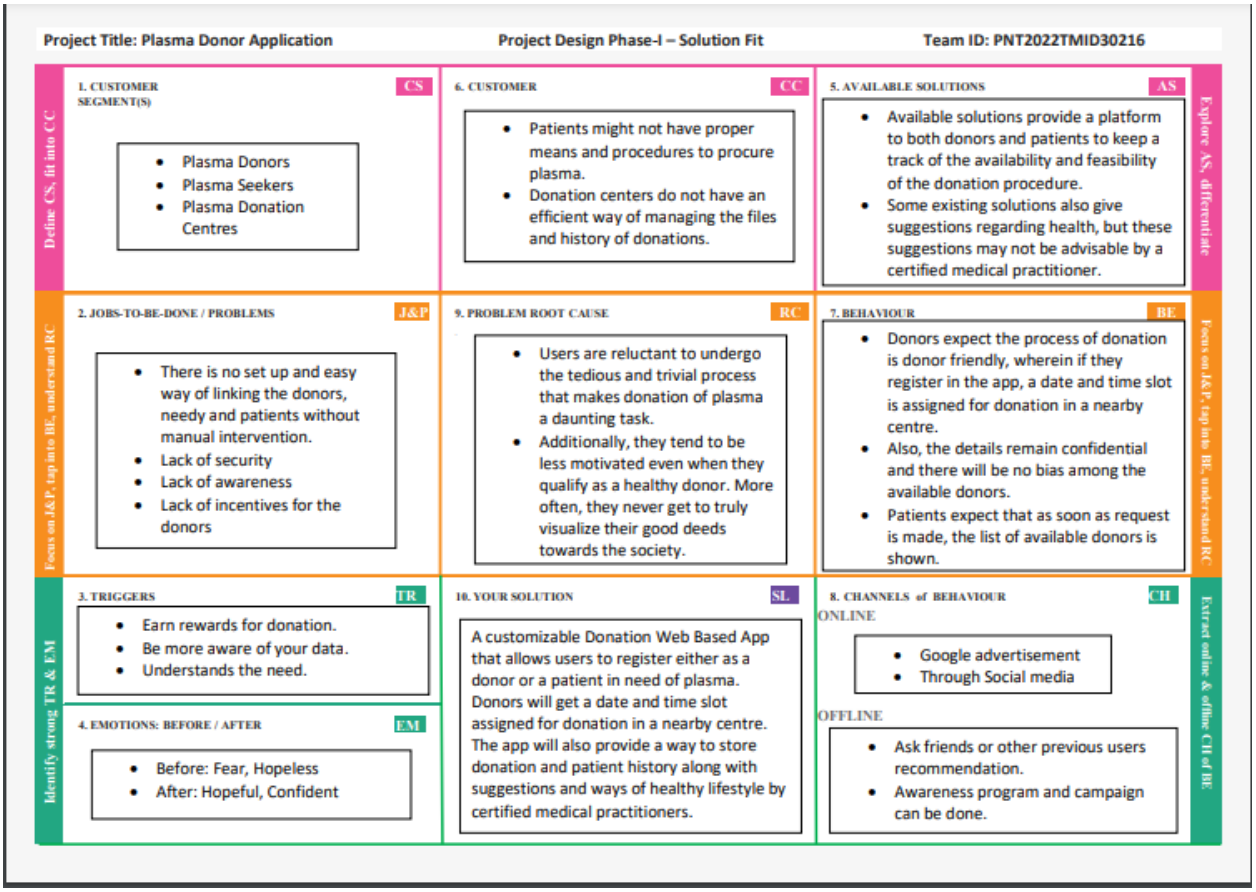
3.2 IDEATION & BRAINSTORMING



3.3 PROPOSED SOLUTION:

S. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	➢ To help the plasma donor and seeker by developing a cloud-based application**.**
2.	Idea / Solution description	➢ In day-to-day life requirement for plasma became high, especially during the COVID-19 crisis. ➢ But the donor count was low. ➢ Saving the donor information and helping the needy by notifying the current donors would be a helping hand. ➢ It is very difficult to find the respective blood group donors when anyone is in need. ➢ Regarding the problem faced, an application is to be built which would take the donor details store them and inform them upon request. ➢ And also for plasma donation centre, it is easy to find donors.
3.	Novelty / Uniqueness	➢ We help the donor to access the location of a blood centre which is nearby him/her. ➢ We Notify them by sending a confirmation emails after they get registered for the plasma donation and also we notify them once the appointment is fixed in the centre. ➢ Furthermore, the GPS map option is available to direct the donor to the centre.
4.	Social Impact / Customer Satisfaction	➢ By using this application, the user will experience a user-friendly and responsive interface and they get satisfaction by saving thousands of people's life**.**
5.	Business Model (Revenue Model)	➢ Donating Plasma with the help of an application makes our idea realistic. ➢ The user's information is encrypted. We maintain this app by automation for saving admin and user time. ➢ Users get profited as we take care of them even after the plasma donation by giving them hospitality details. ➢ Also, we use the Chabot to answer FAQs, as it helps the user to get immediate answers to their doubts.
6..	Scalability of the Solution	➢ Whatever the requirements, the application provides a clear solution for the requirements. It can handle more users who use the application at the same time**.**

3.4 PROBLEM SOLUTION FIT:



REQUIREMENT ANALYSIS

CHAPTER - 4

REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENT

FR No.	Functional Requirement(Epic)	Sub Requirement(Story/Sub-Task)
FR-1	User Registration	Registration through Web Application
FR-2	User Confirmation	Confirmation via Email
FR-3	User Interaction	Solve queries Using watson
FR-4	User Request	Accept cloud
FR-5	User Selection	Enabled via Sql queries
FR-6	User Appointment	Confirmation via email

4.2 NON-FUNCTIONAL REQUIREMENTS

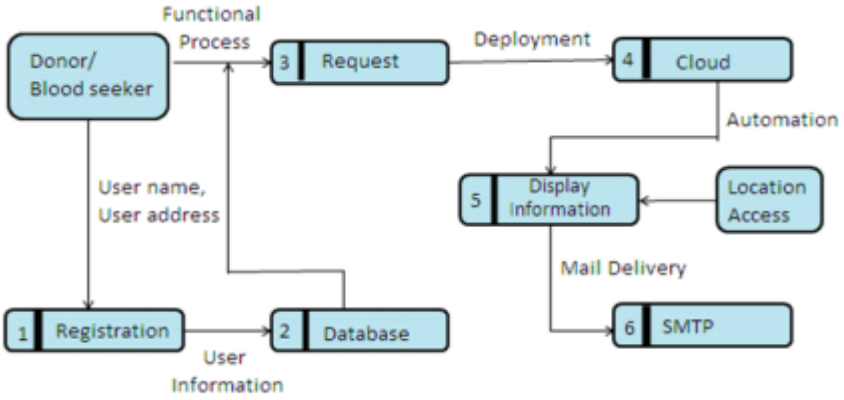
FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Easily can track location
NFR-2	**Security**	It offers great security and prevents unauthorized users.
NFR-3	**Reliability**	Users can access 98% of the time without Failure. Work efficiently even in high traffic.
NFR-4	**Performance**	They can track the donor's location easily for a particular blood group.
NFR-5	**Availability**	Availability is wide to everyone using this app.
NFR-6	**Scalability**	This solution can quickly enlarge some annual growth of new Users.

PROJECT DESIGN

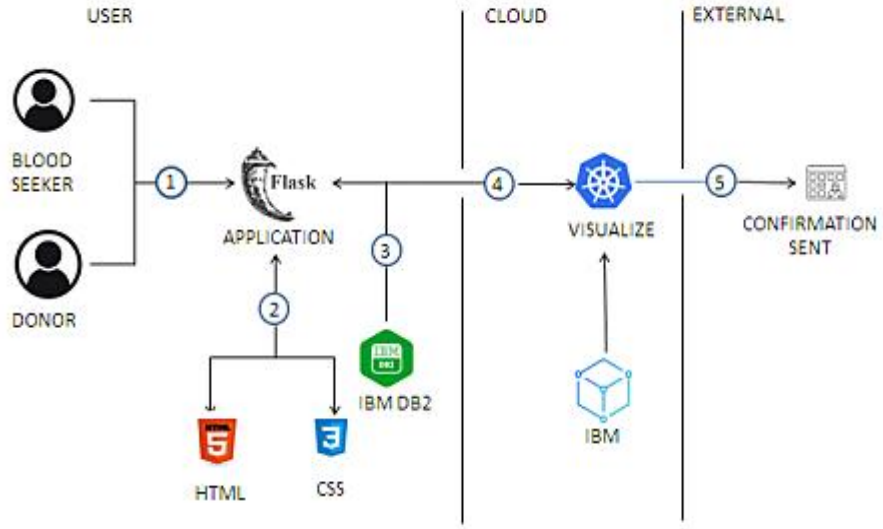
CHAPTER - 5
PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS

Data Flow Diagrams:

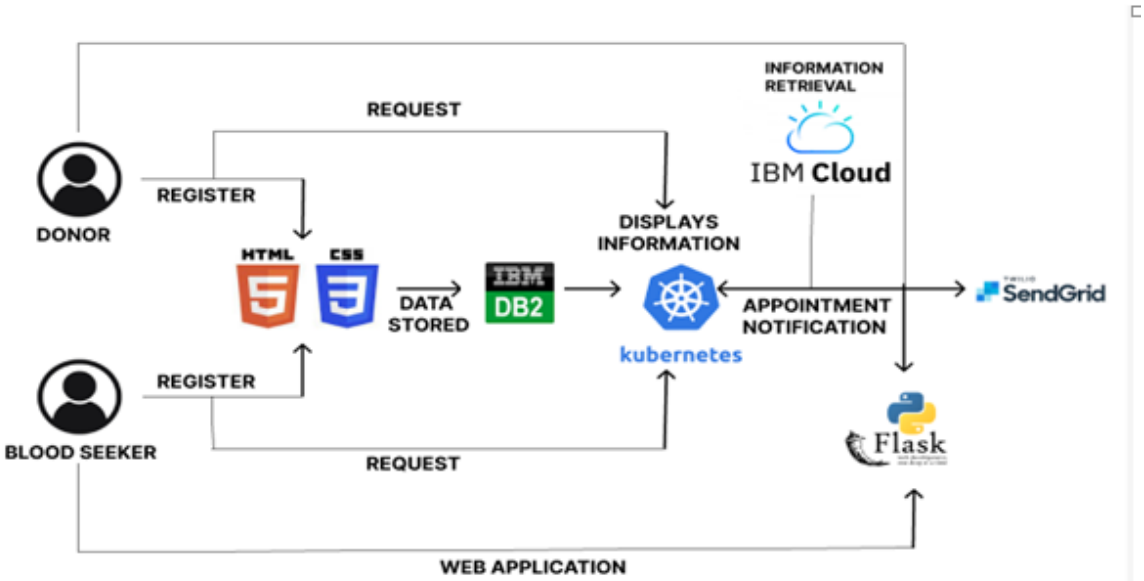


1.User registration start through web Application
2.User's Data stored in Database
3.There request processed and deployed in Kubernates
4.Cloud Extracts the data file and display the Information
5.Confirmation Message sent using SMTP to Users.



5.2 SOLUTION & TECHNICAL ARCHITECTURE:

Solution Architecture:



5.3 USER STORIES:

User Type	Functional Requirement(Epic)	User Story Number	User Story/Task	Acceptance criteria	Priority	Release
Donor	Registration	USN-1	As a Donor, I can register for the application by entering my email, password, and confirming my password.	I can access my account/dash board	High	Sprint-1
Donor	Confirmation	USN-2	As a Donor , I will receive a confirmation email once the Appointment is fixed.	I can receive confirmation email & click confirm	High	Sprint-1
Donor	Interaction	USN-3	As a user, I can solve my queries using Chatbot	I have a solution for my problem	Low	Sprint-2
Donor	Selection	USN-4	As a Donor, I can select the donation centre.	It will be user-friendly	Medium	Sprint-1
Donor	Login	USN-5	As a Donor, I can log into the application by Entering email & password	Security will be enabled.	High	Sprint-1
Blood seeker	Dashboard	USN-6	As a blood seeker, I can access my dashboard and I can fix the cost..	It helps the donor to satisfy the cost.	Medium	Sprint-1
Donation Centre	Availability	USN-7	Release the Appointment availability for Donation	It will be time saving	High	Sprint-2

PROJECT PLANNING & SCHEDULING

CHAPTER - 6

6. PROJECT PLANNING & SCHEDULING:

6.1 SPRINT PLANNING & ESTIMATION:

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	3	High	Santhiya T Shahrin Banu T
Sprint-2	Email confirmation	USN-2	As a user, I will receive confirmation email once I have registered for the application	2	High	Soundarya A Susmitha A
Sprint-1	Gmail registration	USN-3	As a user, I can register for the application through Gmail	2	Medium	Shahrin Banu T Santhiya T
Sprint-1	Login	USN-4	As a user, I can log into the application by entering email & password	3	High	Susmitha A
Sprint-2	Dashboard	USN-5	As a user, I can able to know the information about plasma donation and register for the donation.	5	High	Soundarya A Susmitha A
Sprint-3	Request and Accept	USN-6	As a user, I can request and accept for the donation.	5	Medium	Susmitha A

6.2 SPRINT DELIVERY SCHEDULE

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	08	6 Days	24 Oct 2022	29 Oct 2022		
Sprint-2	10	6 Days	31 Oct 2022	05 Nov 2022		
Sprint-3	24	6 Days	07 Nov 2022	12 Nov 2022		
Sprint-4	10	6 Days	14 Nov 2022	19 Nov 2022		

Velocity:

Average velocity of Sprint-1: AV = 1.3

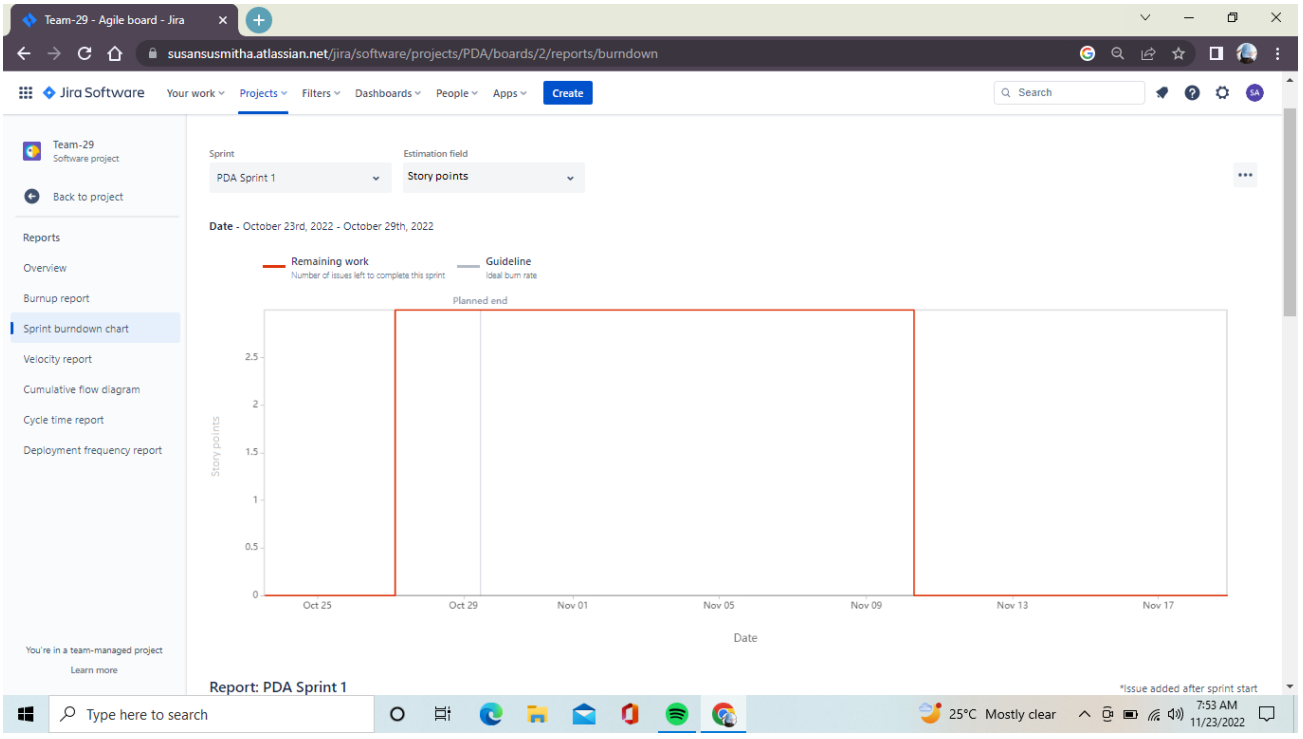
Average velocity of Sprint-2: AV = 1.6

Average velocity of Sprint-3: AV = 4

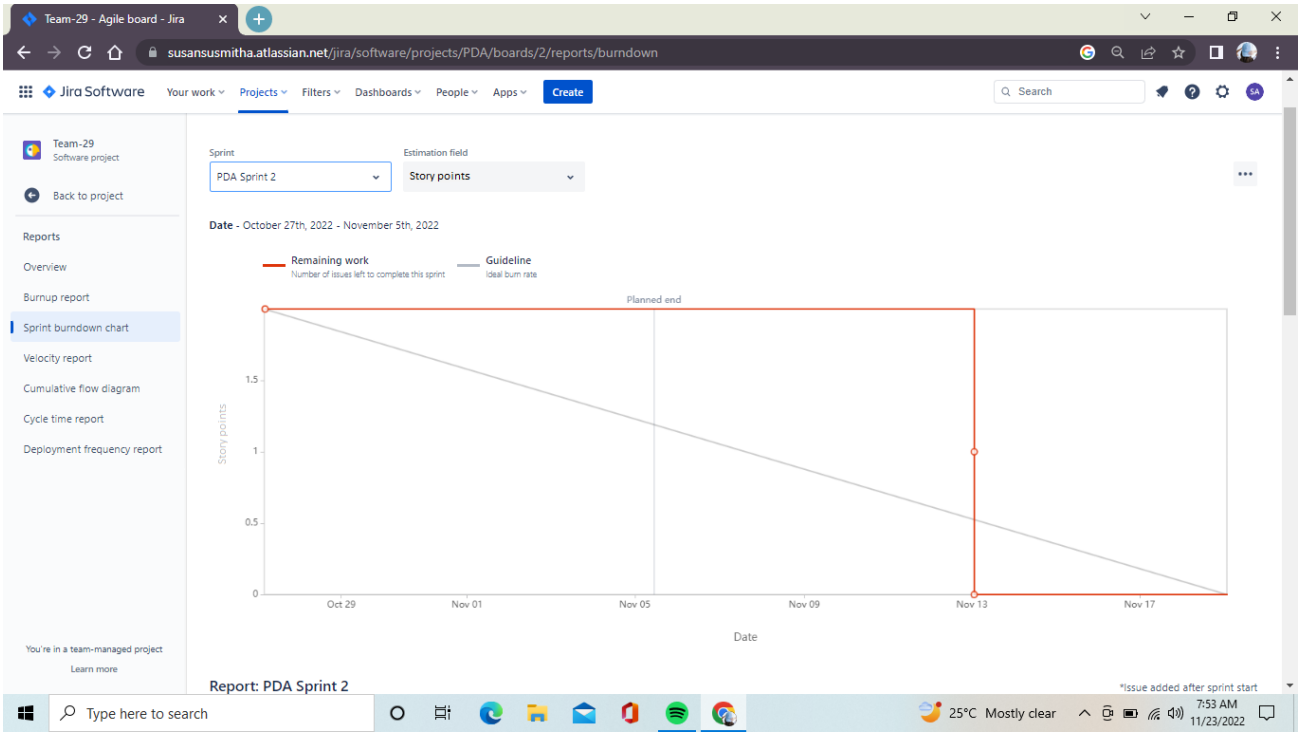
Average velocity of Sprint-4: AV = 1.6

6.3 REPORTS FROM JIRA

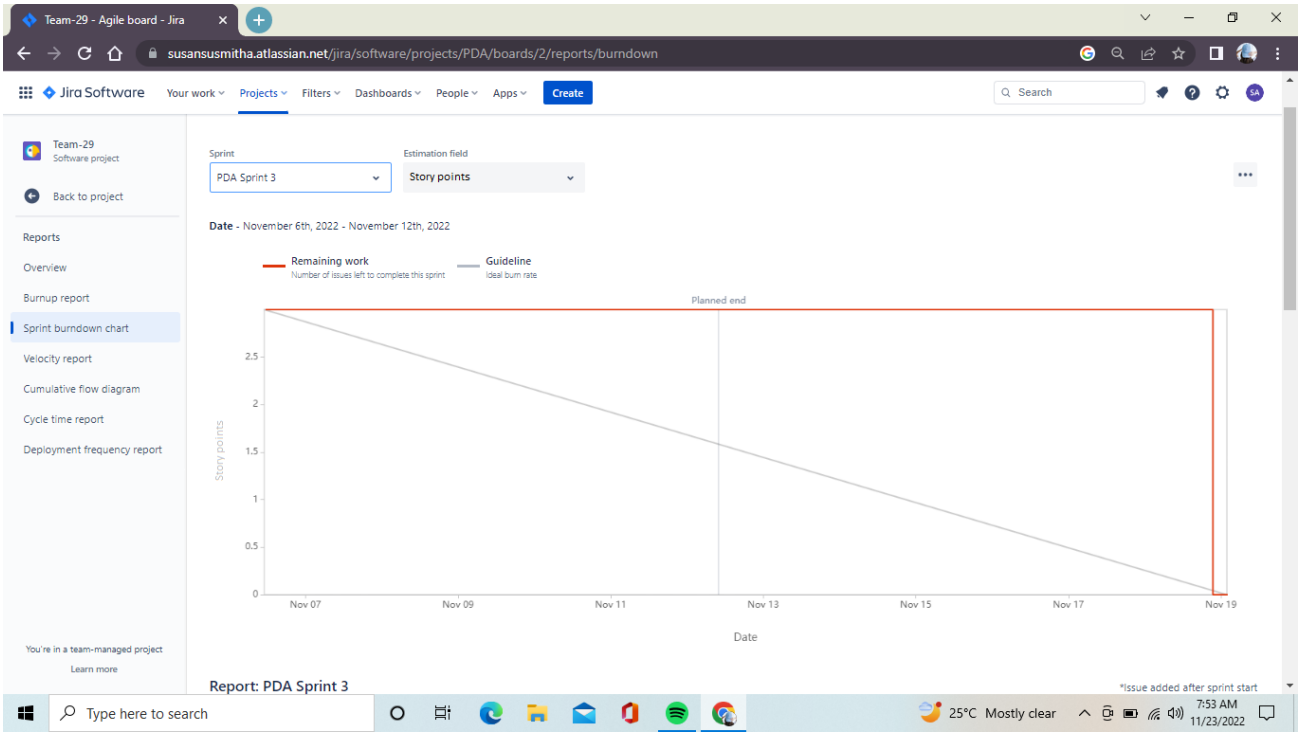
SPRINT - 1



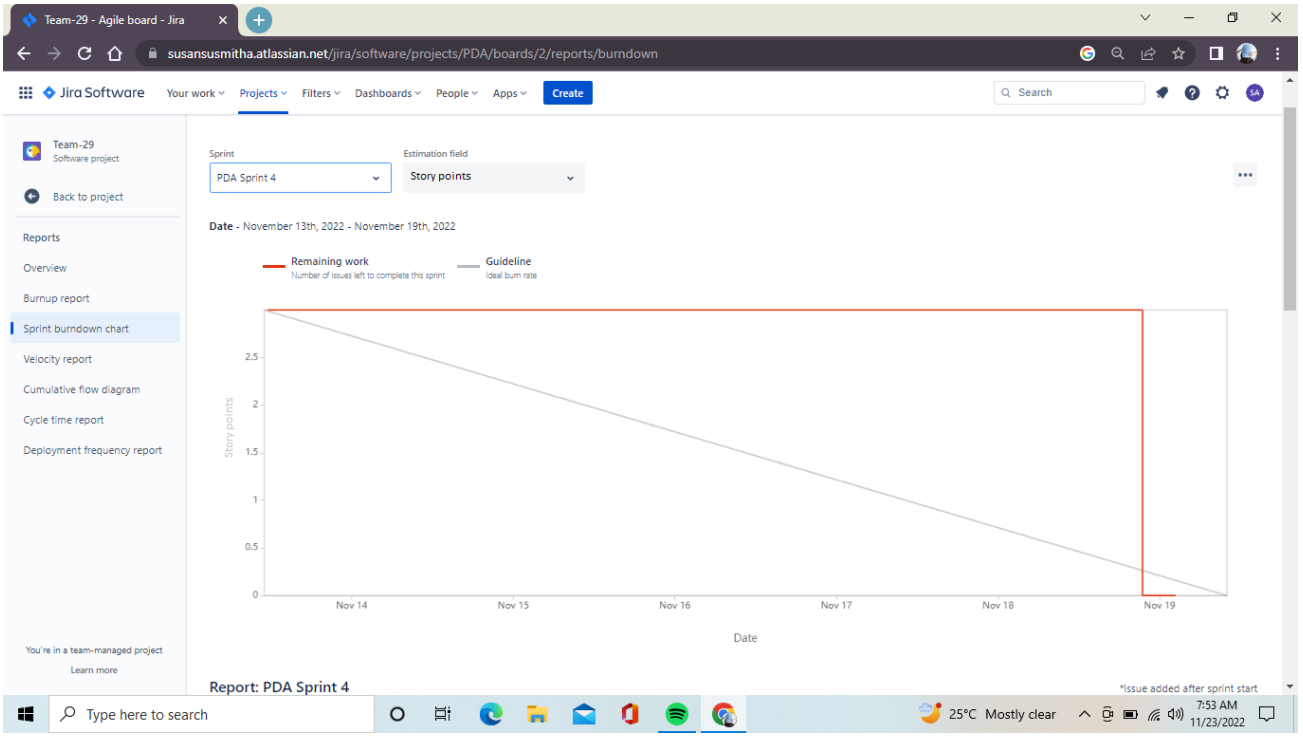
SPRINT - 2



SPRINT – 3



SPRINT – 4


Team-29 - Agile board - Jira
susansusmitha.atlassian.net/jira/software/projects/PDA/boards/2/reports/burndown
Jira Software
Your work
Projects
Filters
Dashboards
People
Apps
Create
Search
Team-29
Software project
Back to project
Reports
Overview
Burnup report
Sprint burndown chart
Velocity report
Cumulative flow diagram
Cycle time report
Deployment frequency report
You're in a team-managed project
Learn more
Sprint
PDA Sprint 4
Estimation field
Story points
Date - November 13th, 2022 - November 19th, 2022
Remaining work
Number of issues left to complete this sprint
Guideline
Ideal burn rate
Story points
2.5
2
1.5
1
0.5
0
Nov 14
Nov 15
Nov 16
Nov 17
Nov 18
Nov 19
Date
Report: PDA Sprint 4
*Issue added after sprint start
Type here to search
25°C Mostly clear
7:53 AM
11/23/2022

CODING & SOLUTIONING

CHAPTER -7
CODING & SOLUTIONING

7.1 FEATURE 1

In this project we created a easy way to find people who are in need of plasma or donating plasma by this application with tracking nearby A customizable Donation Web Based Application that allows users to register either as a donor or a patient in need of plasma. Donors will get a date and time slot assigned for donation in the nearby centre. This app will also provide a way to store donation and patient along with suggestions and ways of healthy lifestyle by certified medical practitioners. In this application we have created a GPS Tracking system which helps for the requester and donor to easily reach nearby plasma donation centre. It also recommends the plasma donation centre which the donor or requester can easily find it based on the database entered in the form.

7.2 FEATURE 2

In our application we gave an aesthetic view of web page and the people who use our web page can easily find out the things and can use it without any error. we also created a chatbot which helps to the people who have any doubt they can easily ask to chatbot whatever the doubt is and it automatically gives sudden reply to our users.

TESTING

CHAPTER - 8

8. TESTING

8.1 TEST CASES

				Date	18-11-22							
				Team ID	PNT2022TMID30216							
				Project Name	Plasma Donor Application							
				Maximum Marks	4 marks							
Test case ID	Feature Type	Components	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Commnets	TC for Automation (Y/N)	Executed By
LoginPage_TC_OO 1	Funcdona1	Login page	Verify user is able to log into application with valid credentials	Registered user ID and password	1.Enter URL and click go 2.Go to login page 3.Enter valid credentials 4.Click Sign in	Sign in as Donor Email:susmitha susan78@gmail .com password:susmi tha@001	Application should authenticate user navigate them to their dashboard	Working as expected	Pass	Steps are clear to follow		Susmitha A
LoginPage_TC_OO 2	Functional	Login page	Verify user is not allowed to log into application with invalid credentials		1.Enter URL and click go 2.Go to login page 3.Enter invalid credentials 4.Click Sign in	Sign in as Donor Email:susmitha susan78@gmail .com password:susmi tha@001	Application should show 'incorrect email or password ' validation message.	Working as expected	Pass	Steps are clear to follow	N	Soundarya A
LoginPage_TC_O O 3	ui	Login page	Verify user is able to see the Login page upon opening the application		1.Enter URL and click go		App should redirect to login page i user is not	Working as expected	Pass	Steps are clear to follow	N	Susmitha A
RegisterPage_TC _OO1	Funcdona1	Login page	Verify user can register to the application	Email ID/Phone Number, User Name and a new password	1.Enter URL and click go 2.Go to register page 3.Enter user type and user id details 4.Enter password in enter password and confirm password input fields 5. Click register	Register as: Donor Full Name: Deepak B Email: deepak22@gmai l.com Password: Plasma@123 Confirm Password: Plasma@123	Application should register their data and navigate them to sign in page	Working as **expected**	Pass	Steps are clear to follow		Shahrin Banu T
RegisterPage_TC _002	Functional	Register page	User password entries are validated to match each other	Email ID/Phone Number	1.Enter URL and click go 2.Go to register page 3.Enter user type and user id details 4.Enter password in enter password and confirm password input fields	Sign in as Donor Email:susmitha susan78@gmail .com password:susmi tha@001	User should be able to click the register button or not depending upon the password matching status	working as expected	Pass	Steps are clear to follow	N	Sharin Banu T
RegisterPage_TC_ O 03	UI	Register page	Verify user is able select user type for registration type		1.Enter URL and click go 2.Go to register page 3.Click on Register as dropdown button 4.Verify if user can select between Donor/Patient type	Choose Donor or Patient in Tab	Dropdown should display and user can choose an option	Working as **expected**	Pass	Steps are clear to follow		Shahrin Banu T
SignOut_TC_OO4	Functional	Sign out	Verify users can sign out of the application		1.Enter URL and click go 2.Sign in with registered account 3.Perform any desired actions 4. Click sign out in navigation bar	Click sign out in navbar	Users can safely sign out and terminate the signed in session	Working as expected	Pass	Steps are clear to follow		Deepak B
Location TC_OO1	Functional	Location	Verify users can see the location of Donation centre		1.Enter URL and click go 2.Can track the location of Donation centre		Users can save the time by serching in location	Working as expected	Pass	Steps are clear to follow		Santhiya T

8.2 USER ACCEPTANCE TESTING

1. PurposeofDocument

The purpose of this document is to briefly explain the test cover age and open issues of the Plasma Donor Application project at the time of the release to User Acceptance Testing (UAT).

2. Defect Analysis

This reports how's the number of resolved or closed bugs at each severity level, and how they were resolved

Resolution	Severity1	Severity2	Severity3	Severity4	Subtotal
By Design	9	5	1	3	18
Duplicate	1	0	3	0	4
External	1	2	0	3	6
Fixed	10	2	4	19	35
Not Reproduced	0	0	2	0	2
Skipped	0	0	0	1	1
Won't Fix	0	7	2	1	10
Totals	21	16	12	27	76

3. TestCaseAnalysis

This reports how's the number of test cases that have passed, failed, and untested

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	47	0	0	47
Security	2	0	0	2
Outsource Shipping	0	0	0	0
Exception Reporting	9	0	0	9
Final Report Output	3	0	0	3
Version Control	2	0	0	2

RESULTS

CHAPTER - 9

RESULTS

9.1 PERFORMANCE METRICS

			NFT - Risk Assessment						
S.No	Project Name	Scope/feature	Functional Changes	Hardware Changes	Software Changes	Impact of Downtime	Load/Volume Change	Risk Score	Justification
1	Plasma Donor v1	New	High	No Changes	Moderate	Considerable time taken to insert into DB	No Changes	ORANGE	Adding this feature makes it coherent with features like adding group and hence, functional changes are high.
2	Plasma Donor v2	Existing	Moderate	No changes	Moderate	Faster DB operations	NO changes	ORANGE	Isolated SQL statements for faster DB operation.

NFT-DetailedTestPlan				
S.No	ProjectOverview	NFTTestapproach	Assumptions/Dependencies/Risks	Approvals/Signoff
1	PlasmaDonorv1	ReliabilityTesting	Flaskinstalled,appdeployedwithdocker	
2	PlasmaDonorv2	Spiketesting	Flaskinstalled,appdeployedwithdocker	
3	PlasmaDonorv3	Stress testing	Flaskinstalled,appdeployedwithdocker	
4	PlasmaDonorv4	Load testing	Flaskinstalled,appdeployedwithdocker	

			End Of Test Report					
S.No	Project Overview	NFT Test approach	NFR - Met	Test Outcome	GO/NO-GO decision	Recommendations	(Detected/Closed/ Open)	Approvals/Signoff
1	Plasma Donor v1	Reliability Testing	No of failures	41% failures with adding expense with spike in user data and incorrect input values, but maintained avvage of 13000ms response time	GO	Provide checks from input value before inserting into database	Bad request error on viewing approved requests when not a donor	
2	Plasma Donor v2	Spike testing	Response time	Varies from minimum if 1367 ms and maximum of 25509ms for a specific feature of adding expenses	Go			
3	Plasma Donor v3	Stress testing	Response time	Increases from 3100 for one user to 19000ms for 20 users	Go			
4	Plasma Donor v4	Load testing	Failures	Number of failures spikes from 0.3 to 0.9 with increase in number of users from 70 to 100	Go	Provide checks from input value before reading from database	Bad request error on viewing approved requests when not a donor	

ADVANTAGES AND DISAVANTAGES

CHAPTER – 10
ADVANTAGES AND DISADVANTAGES

ADVANTAGES:

1. Earn Up to Rs.4,000 per Year. What attracts many people to plasma donation is the fact that you can earn a substantial amount of money every time you donate.
2. Make an Impact.
3. Boost Your Mood
4. Maintain a Healthy Diet.
5. Reduce Cholesterol Levels.
6. Lower Blood Pressure
7. Time saving
8. User friendly
9. Easily Accessible
10. Independent Source

DISADVANTAGES:

1. It's rare, but more serious infections or reactions can occur, which can be treated. For most people, donating plasma does not cause any side effects, but some donors can experience **fatigue, bruising, bleeding, or dehydration**. Additionally, you may feel dizzy or lightheaded. While not typical, fainting can also occur.

2. **Donating plasma too frequently can not only be dangerous for your health but will also damage the quality of the plasma**. A 2010 study found that plasma from people who donated more often and in higher volumes was considerably lower in total protein, albumin, and other blood markers.

3. Inactive in offline mode.

CONCLUSION

CHAPTER – 11

CONCLUSION

The conclusion of this plasma donor application is that donating plasma doesn't only make you more aware of your diet. It may also have a positive impact on your physical health. One health benefit of regular plasma donation is the potential reduction of bad cholesterol levels and the increase of good cholesterol, especially in women. In a plasma-only donation, the liquid portion of the donor's blood is separated from the cells. Blood is drawn from one arm and sent through a high-tech machine that collects the plasma. The donor's red blood cells and platelets are then returned to the donor along with some saline. The process is safe and only takes a few minutes longer than donating whole blood. Donated plasma is frozen within 24 hours of being donated to preserve its valuable clotting factors. It can be stored for up to one year and thawed for transfusion to a patient when needed. Red Cross donations are often used directly for hospital patient transfusions, rather than pharmaceutical uses.

In this project we created a easy way to find people who are in need of plasma or donating plasma by this application with tracking nearby A customizable Donation Web Based Application that allows users to register either as a donor or a patient in need of plasma. Donors will get a date and time slot assigned for donation in nearby centre. This app will also provide a way to store donation and patient history along with suggestions and ways of healthy lifestyle by certified medical practitioners. So in this application we conclude that plasma donation is safe and we create a easy way to donate plasma and get plasma for the people and also they can know the exact location of the centre by using our location tracking system and also they can choose the according to their blood groups in our plasma donor application. This application will widely useful for Donors who are interested to donate the Blood & Save the life and blood seekers who needed plasma. It will be user friendly application. so herewe conclude with a quote

"Be a saviour just by donating your Plasma"

FUTURE SCOPE

CHAPTER – 12

FUTURE SCOPE

FUTURE SCOPE:

It will be easily accessible resource and in market it will have good strategy to save the someone's life. The scope clearly defines the boundaries the proposed system. The functional areas of this application that lies under the scope of the proposed system are the management of the availability of donors, hospitals, blood or plasma banks to the user or member at any time. There will be a lot of future scope in this plasma donor application because there are lot of donors and requesters who need of plasma and there will be increase in count who need of plasma in future and also people can earn from this donation. Giving to charities – whether monetary or donated goods is a mood booster. Helping those in need can make you feel more content and fulfilled. Research has shown that there is a link between making a donation to charity and feeling joy. Social Conscience is a widely given reason on why people donate to charities. The act of helping others, donating to charity, or volunteering your time, **will give you an improved sense of wellbeing**. The knowledge that you've sacrificed time and/or money in order to help others in need or create positive change in the world is a beautiful thing.

APPENDIX

CHAPTER - 13

APPENDIX

13.1 SOURCE CODE

app.py

```
app.config['MAIL_SERVER']='smtp.gmail.com'
app.config['MAIL_PORT']=465
app.config['MAIL_USERNAME']="2k19cse111@kiot.ac.in"
app.config['MAIL_PASSWORD']="susanmithun@007"
app.config['MAIL_USE_TLS']=False
app.config['MAIL_USE_SSL']=True

mail=Mail(app)

@app.route('/request')
def requests():
        email = request.cookies.get('email')
        name = request.cookies.get('name')
         if email != None:
                resp = make_response(render_template('request.html',email = email, name = name,
                logged_in = True))
        else:
                resp = make_response(render_template('request.html',email = email, name = name,
                logged_in = False))
                return resp

@app.route('/donor_registration')
def donor_registration():
        email = request.cookies.get('email')
        name = request.cookies.get('name')
        isDonor = False
        if email != None:
        sql = 'select * from donors where email='+'\''+email+'\''
        stmt = ibm_db.exec_immediate(conn, sql)
        dictionary = ibm_db.fetch_assoc(stmt)
        isDonor = False

        if dictionary != False:
                 isDonor = True

         if isDonor:
```

```
            resp = make_response(render_template('donor_registration.html',email = email,
            name = name, isDonor = True, logged_in = True))
        elif email != None:
            resp = make_response(render_template('donor_registration.html',email = email,
            name = name, logged_in = True))
        else:
            resp = make_response(render_template('donor_registration.html',email = email,
            name = name, logged_in = False))
        return resp

@app.route('/add_user', methods=['POST', 'GET'])
def add_user():
        if request.method == 'POST':
        try:

            name = request.form['name']
            email = request.form['email']
            password = request.form['pass']

            sql = "select * from users where email = "+"'"+email+"'"
            stmt = ibm_db.exec_immediate(conn, sql)
            user = ibm_db.fetch_assoc(stmt)
            if user:
                msg = "Account already exists"
            else:
                sql = "insert into users values(?,?,?)"
                param = name, email, password,
                stmt = ibm_db.prepare(conn, sql)
                ibm_db.execute(stmt, param)
                msg = "You're successfully signed up!"

                recip = email
                message=Message('Registration
        confirmation',sender="2k19cse111@kiot.ac.in",recipients=[recip])
                message.body="Thank you for your registration in our ' Plasma Donor ' web
application. you are successfully signed up. Now, give your details in the sign-in form to redirect to
our home page. If you want to donate plasma just go to the donate section in our web application
and fill out the form with your valid details. Also, if you want plasma just go to the request section
in our web application and fill out the form with your valid details. If you need any help just email
2k19cse111@kiot.ac.in."
                mail.send(message)
                return "mail sent"
                render_template("post_signup.html" )

        except Exception as e:
            print("exception occured!",e)
            msg = e
```

```
        finally:
                return render_template('post_signup.html', msg = msg)

@app.route('/validate_user',methods = ['POST', 'GET'])
def validate_user():
        if request.method == 'GET':
        try:
                args = request.args
                email = args.get('email')
                password = args.get('password')

                sql = 'select * from users where email='+'\''+email+'\''
                stmt = ibm_db.exec_immediate(conn, sql)
                dictionary = ibm_db.fetch_assoc(stmt)
                print("executed")
                print(dictionary)
                if dictionary != False:
               if(dictionary["PASSWORD"]== password):
                        print("success")
                        resp = make_response(render_template("post_signin.html"))
                        resp.set_cookie('email', dictionary["EMAIL"])
                        resp.set_cookie('name',dictionary["NAME"])
                        print("success")
                        return resp


                else:
                        return "Incorrect Password"
        else:
                        return "User does not exists"

    except Exception as e :
        print("error",e)
      return repr(e)

@app.route('/add_donor', methods=['POST', 'GET'])
def add_donor():
        if request.method == 'POST':
        try:
                name = request.form['name']
                email = request.form['email']
                phone = request.form['phone']
                bloodgroup = request.form['bloodgroup']
                date = request.form['date']
                address = request.form['address']
                district = request.form['district']
                state = request.form['state']
                age = request.form['age']
```

```
        sql = "insert into donors values(?,?,?,?,?,?,?,?,?)"
        param = name, email,phone,bloodgroup,date,address,district,state,age,
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.execute(stmt, param)
        msg = "You're successfully registered as a donor!"
        recip = email

                message=Message('Registrationconfirmation',sender="2k19cse111@kiot.ac.i
        n",recipients=[recip])
        message.body="Thank you for your interest in plasma donation. Just refer our
        website to find the nearest blood donation centres. Refer our 'About' section and
        'FAQ' section for more details. If you need any help just email
        2k19cse111@kiot.ac.in."
        mail.send(message)

         if district=='chennai' or district=='Chennai' or district=='CHENNAI' or
 district=='madras' or district=='Madras' or district=='MADRAS':
                return render_template('chennai.html', msg="Data saved successfuly")
        elif district=='salem' or district =='Salem' or district == 'SALEM':
                return render_template('salem.html', msg="Data saved successfuly")
        elif district=='madurai' or district =='Madurai' or district == 'MADURAI':
                return render_template('madurai.html', msg="Data saved successfuly")
        elif district=='coimbatore' or district =='Coimbatore' or district == 'COIMBATORE':
                return render_template('coimbatore.html', msg="Data saved successfuly")
        elif district=='kanyakumari' or district =='Kanyakumari' or district ==
        'KANYAKUMARI':
                return render_template('kanyakumari.html', msg="Data saved successfuly")
        elif district=='trichy' or district =='Trichy' or district == 'TRICHY' or
        district=='thiruchirappalli' or district=='Thiruchirappalli' or
        district=='THIRUCHIRAPPALLI':
                return render_template('trichy.html', msg="Data saved successfuly")
        elif district=='erode' or district =='Erode' or district == 'ERODE':
                return render_template('erode.html', msg="Data saved successfuly")
        elif district=='namakkal' or district =='Namakkal' or district == 'NAMAKKAL':
                return render_template('namakkal.html', msg="Data saved successfuly")
        elif district=='dharmapuri' or district =='Dharmapuri' or district == 'DHARMAPURI':
                return render_template('dharmapuri.html', msg="Data saved successfuly")
        elif district=='karur' or district =='Karur' or district == 'KARUR':
                return render_template('karur.html', msg="Data saved successfuly")
        else:
                return render_template('home.html', msg="Data saved successfuly")

except Exception as e:
        print("exception occured!",e)
        msg = e
```

13.2 GITHIB AND PROJECT DEMO LINK

PROJECT DEMONSTRATION VIDEO LINK: **https://github.com/IBM-EPBL/IBM-Project-5522-1658773277**

PROJECT DEMO LINK: http://169.51.194.140:32000/

REFERENCE

CHAPTER - 14

REFERENCES

Paper 1: Evaluation of the Wateen App in the Blood-Donation Process in Saudi Arabia

Paper 2: A Cross-Platform Blood Donation Application with a Real-Time, Intelligent, and Rational Recommendation System

Paper 3: Location-based Mobile Application for Blood Donor Search

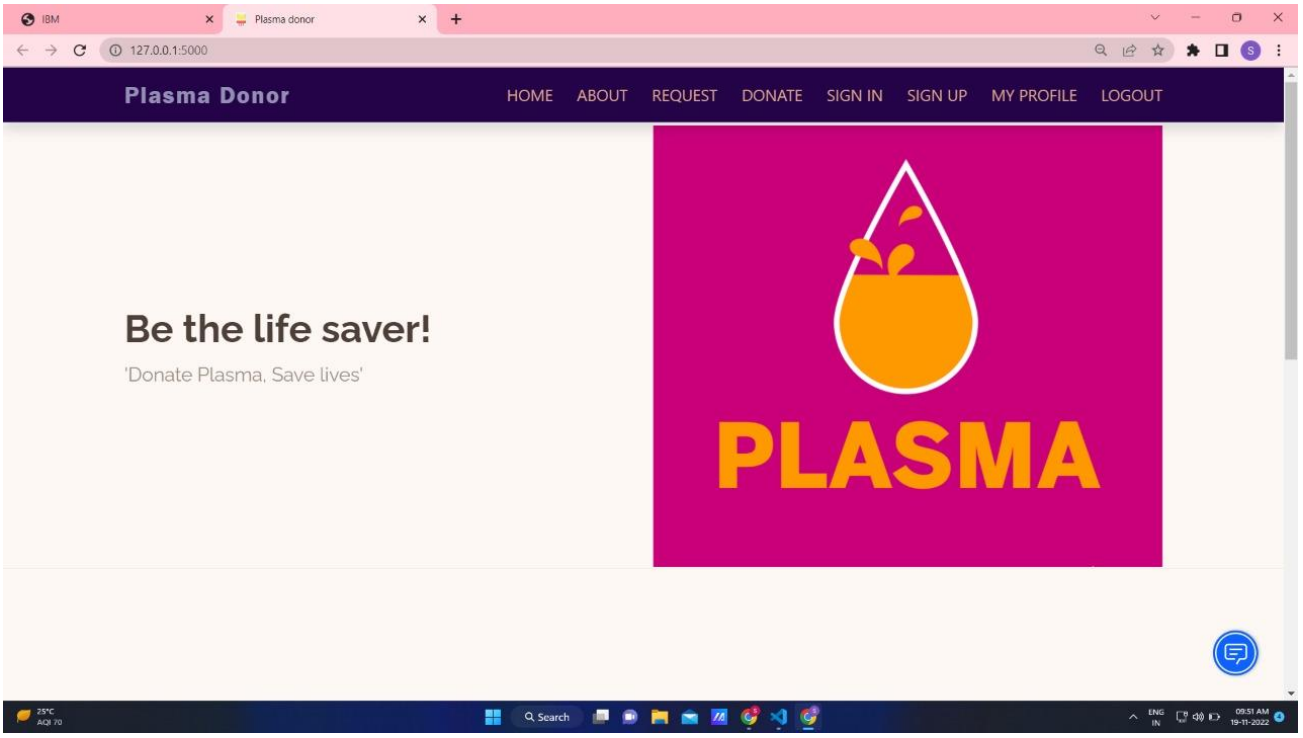
Paper 4: Blood donor app usage behavior and perceptions: Considerations for a blood donation app

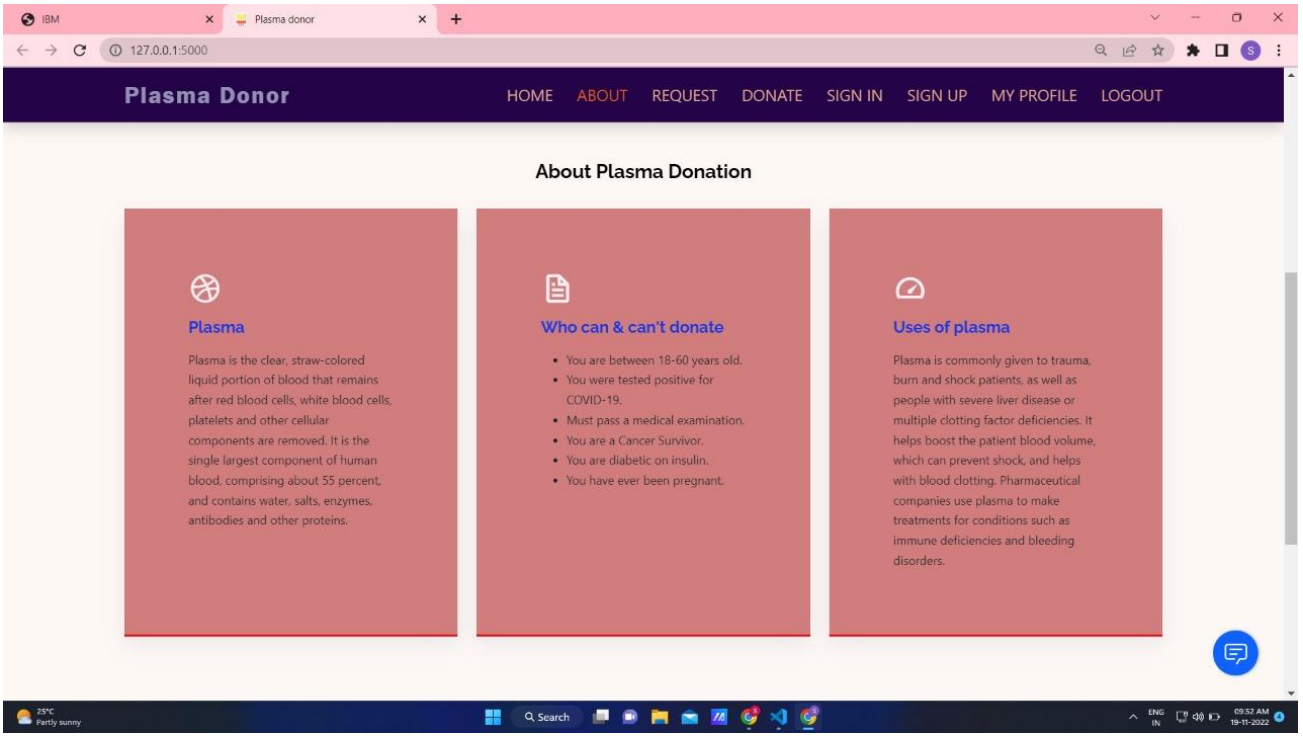
Paper 5: Preferences and features of a blood donation smart phone app: A multicenter mixed-methods study in Riyadh, Saudi Arabia

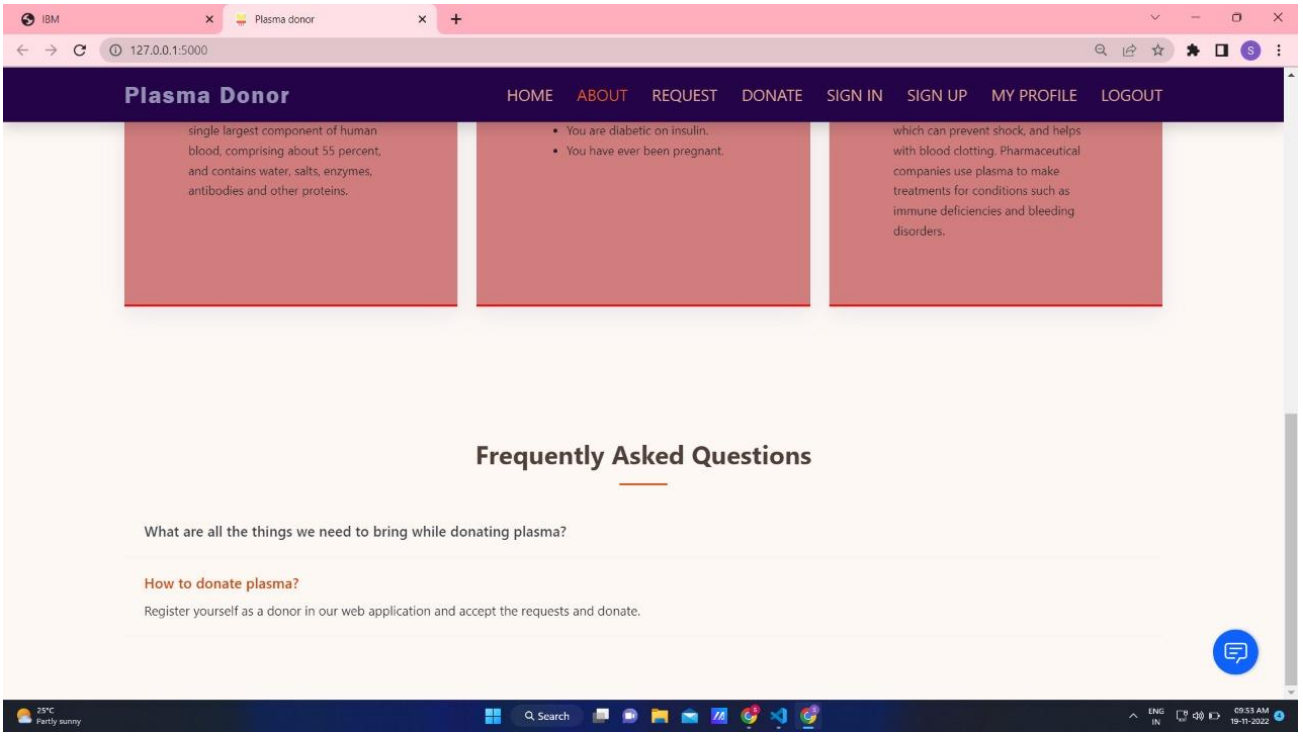
SCREENSHOTS

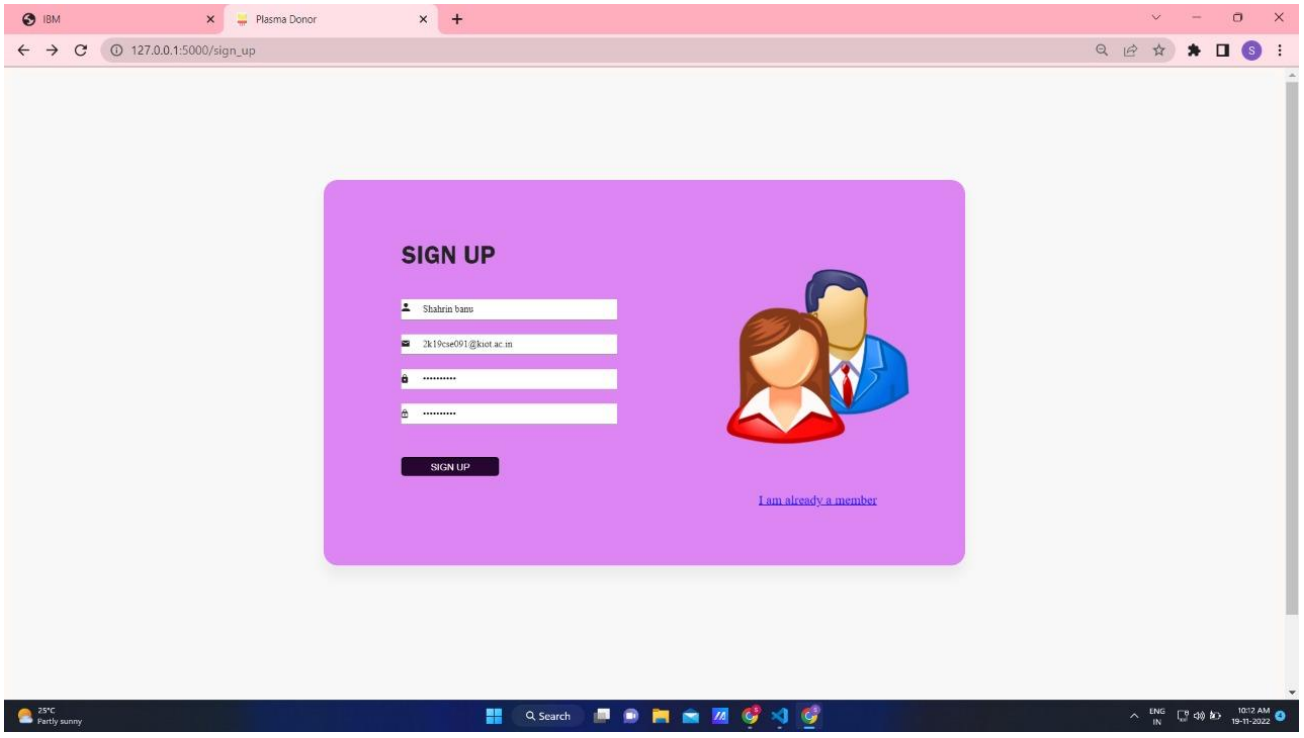
CHAPTER -15

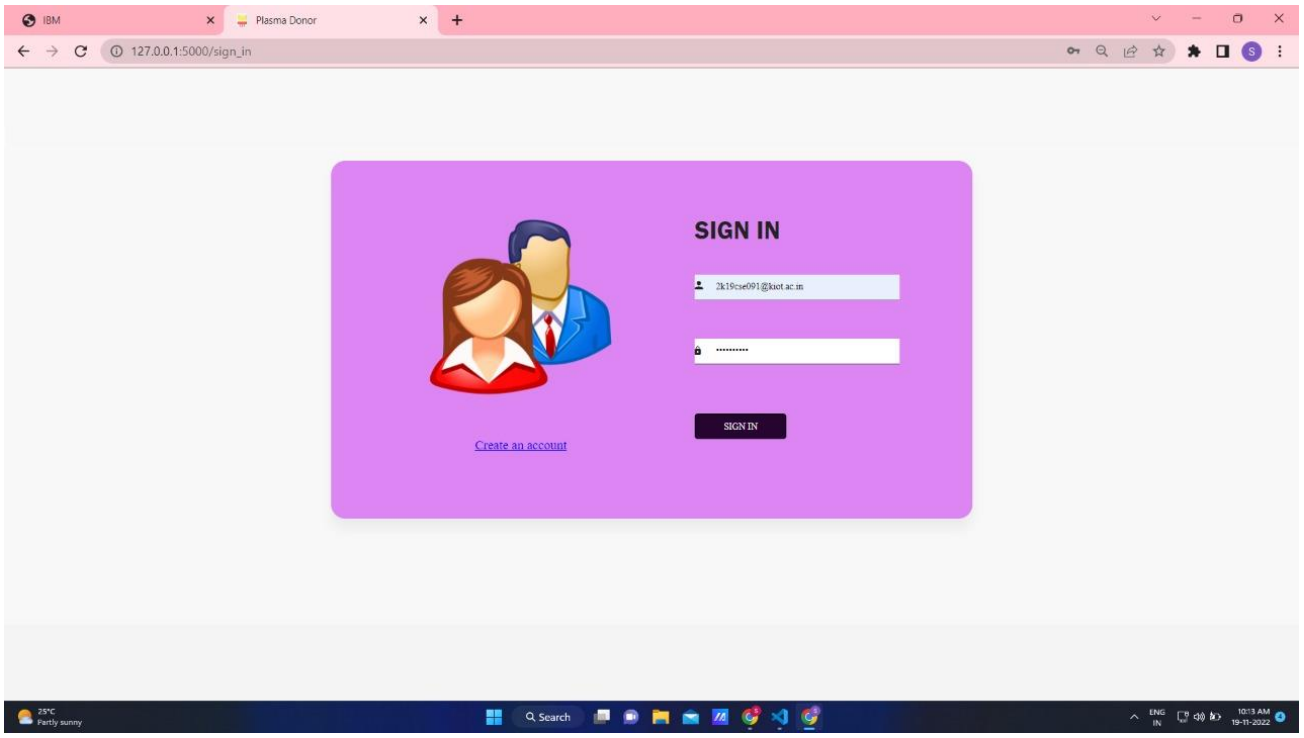
SCREENSHOTS

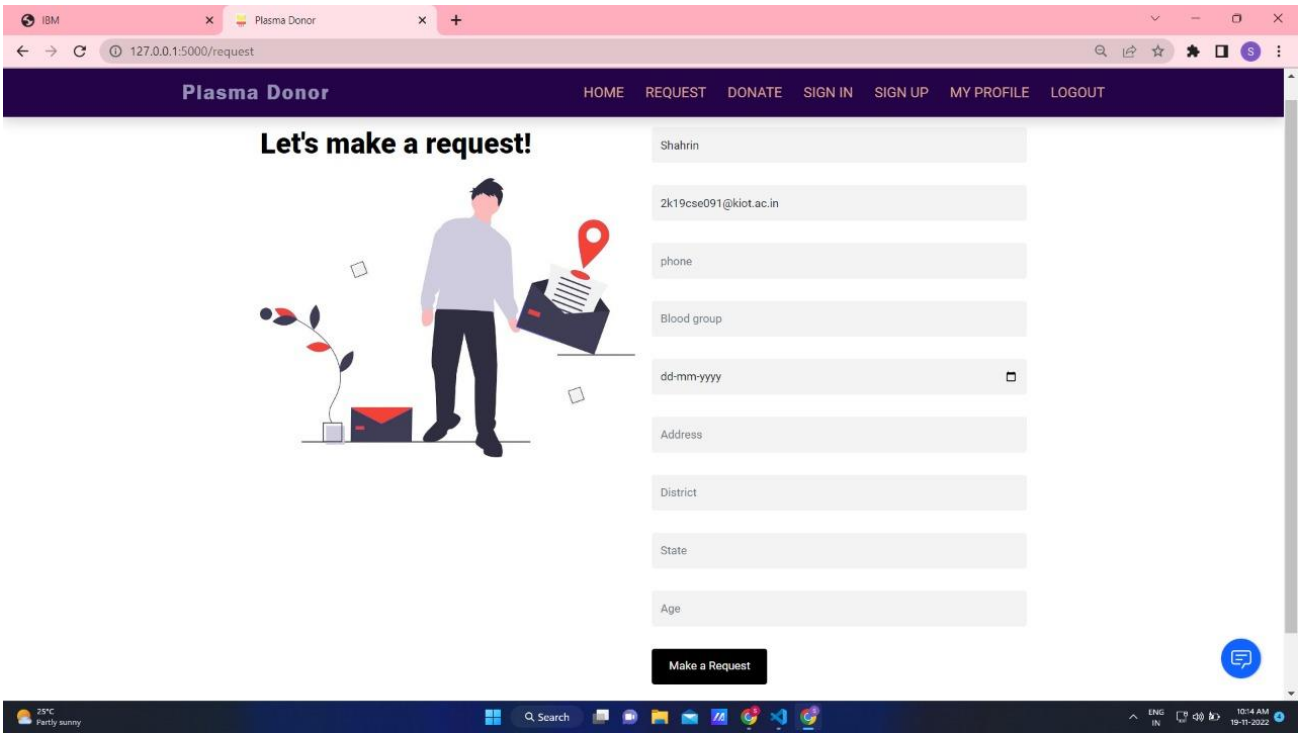


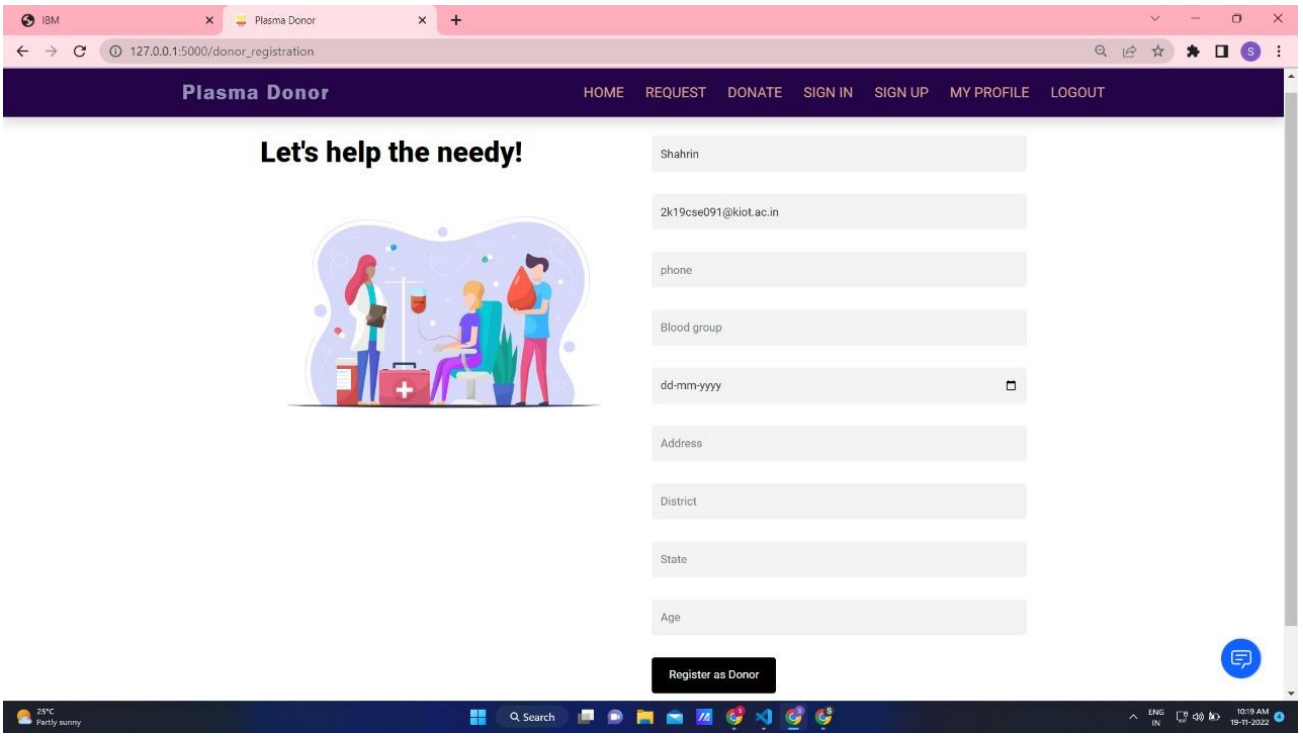


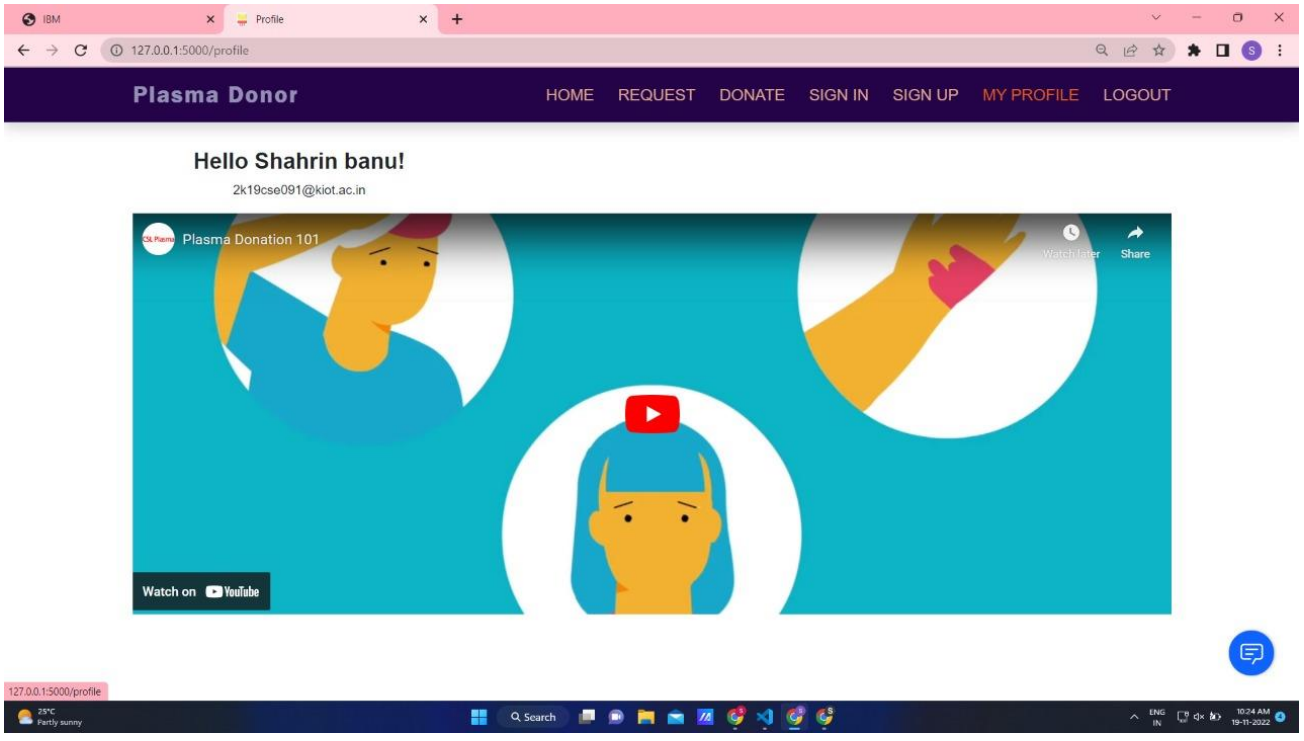

IBM
Plasma donor
127.0.0.1:5000
Plasma Donor
HOME
ABOUT
REQUEST
DONATE
SIGN IN
SIGN UP
MY PROFILE
LOGOUT
single largest component of human blood, comprising about 55 percent, and contains water, salts, enzymes, antibodies and other proteins.
You are diabetic on insulin.
You have ever been pregnant.
which can prevent shock, and helps with blood clotting. Pharmaceutical companies use plasma to make treatments for conditions such as immune deficiencies and bleeding disorders.
Frequently Asked Questions
What are all the things we need to bring while donating plasma?
How to donate plasma?
Register yourself as a donor in our web application and accept the requests and donate.

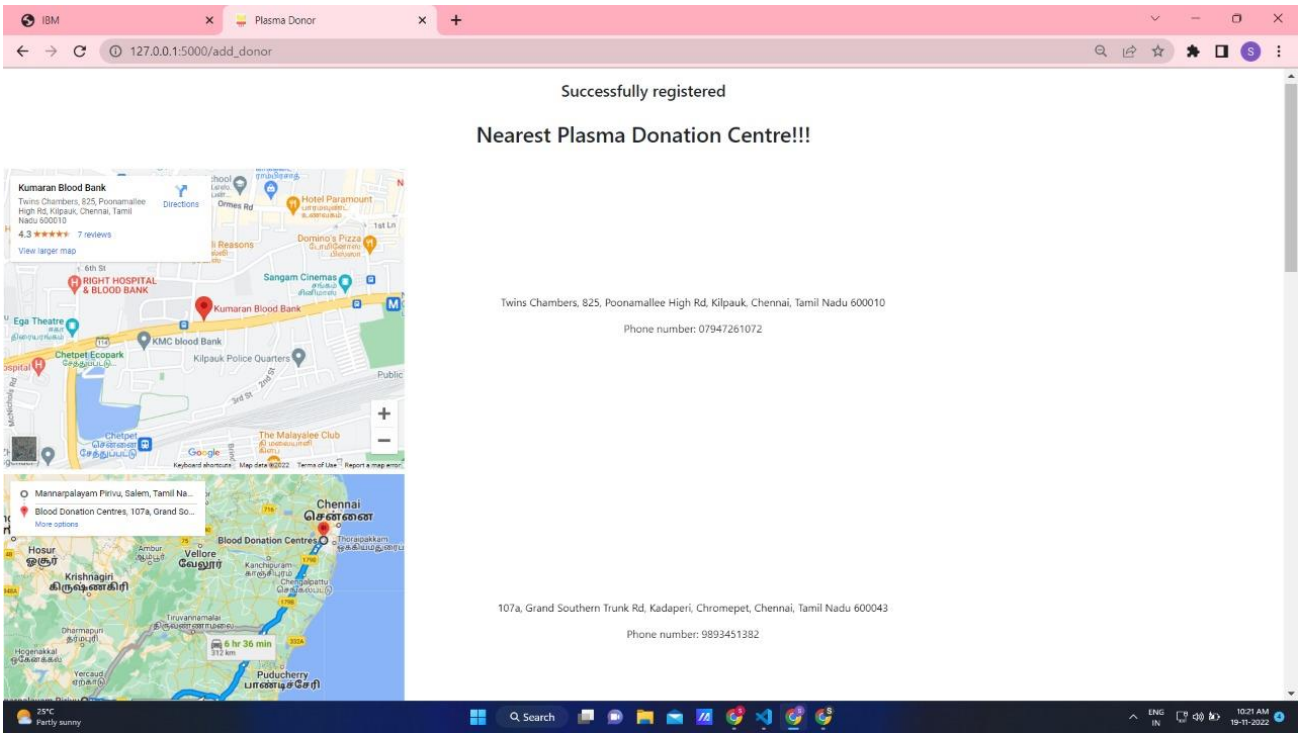

IBM
Plasma Donor
127.0.0.1:5000/sign_up
SIGN UP
Shahrin bans
2k19cse091@kiot.ac.in
SIGN UP
I am already a member

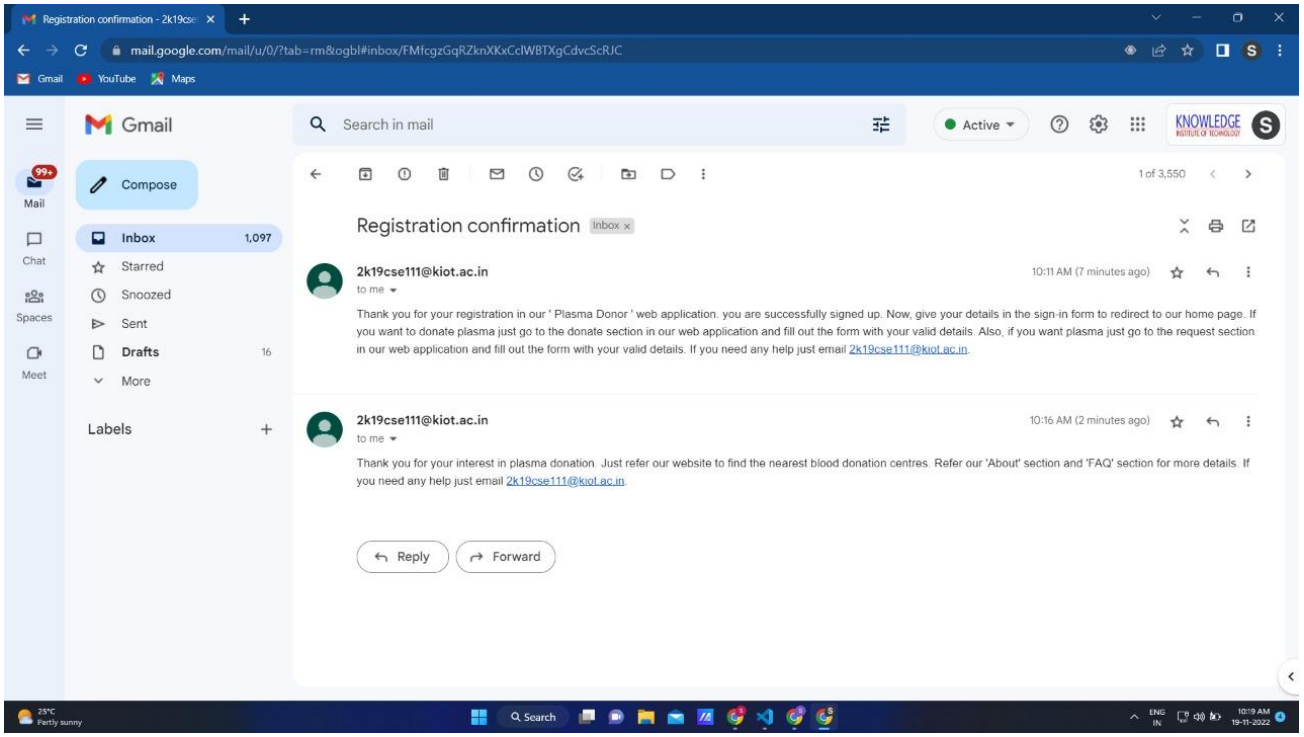

IBM
Plasma Donor
127.0.0.1:5000/sign_in
SIGN IN
2k19cse091@kiot.ac.in
SIGN IN
Create an account


IBM
Plasma Donor
127.0.0.1:5000/request
Plasma Donor
HOME
REQUEST
DONATE
SIGN IN
SIGN UP
MY PROFILE
LOGOUT
Let's make a request!
Shahrin
2k19cse091@kiot.ac.in
phone
Blood group
dd-mm-yyyy
Address
District
State
Age
Make a Request


IBM
Plasma Donor
127.0.0.1:5000/donor_registration
Plasma Donor
HOME
REQUEST
DONATE
SIGN IN
SIGN UP
MY PROFILE
LOGOUT
Let's help the needy!
Shahrin
2k19cse091@kiot.ac.in
phone
Blood group
dd-mm-yyyy
Address
District
State
Age
Register as Donor


IBM
Profile
127.0.0.1:5000/profile
Plasma Donor
HOME
REQUEST
DONATE
SIGN IN
SIGN UP
MY PROFILE
LOGOUT
Hello Shahrin banu!
2k19cse091@kiot.ac.in
Plasma Donation 101
Watch later
Share
Watch on YouTube
127.0.0.1:5000/profile


IBM
Plasma Donor
127.0.0.1:5000/add_donor
Successfully registered
Nearest Plasma Donation Centre!!!
Kumaran Blood Bank
Twins Chambers, 825, Poonamallee High Rd, Kilpauk, Chennai, Tamil Nadu 600010
Phone number: 07947261072
Blood Donation Centres
107a, Grand Southern Trunk Rd, Kadaperi, Chromepet, Chennai, Tamil Nadu 600043
Phone number: 9893451382


Registration confirmation - 2k19cse
mail.google.com/mail/u/0/?tab=rm&ogbl#inbox/FMfcgzGqRZknXKxCclWBTXgCdvcScRJC
Gmail
Search in mail
Compose
Inbox 1,097
Starred
Snoozed
Sent
Drafts 16
More
Labels
Registration confirmation
2k19cse111@kiot.ac.in
Thank you for your registration in our ' Plasma Donor ' web application. you are successfully signed up. Now, give your details in the sign-in form to redirect to our home page. If you want to donate plasma just go to the donate section in our web application and fill out the form with your valid details. Also, if you want plasma just go to the request section in our web application and fill out the form with your valid details. If you need any help just email 2k19cse111@kiot.ac.in.
2k19cse111@kiot.ac.in
Thank you for your interest in plasma donation. Just refer our website to find the nearest blood donation centres. Refer our 'About' section and 'FAQ' section for more details. If you need any help just email 2k19cse111@kiot.ac.in.
Reply
Forward